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EXAMINER

SHEDRICK, CHARLES TERRELL

ART UNIT

PAPER NUMBER

2617

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/573,976	<b>Applicant(s)</b> AUST ET AL.	
	<b>Examiner</b> CHARLES SHEDRICK	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 10/9/08 have been fully considered but they are not persuasive.

2. **Rejection of Claims 10, 17 and 24 under 35 U.S.C. §103**

Applicant argues that *nothing cited in the Office Action discusses preparing for handoff and preventing data loss during the handoff.*

However, the Examiner respectfully disagrees. As noted in the office action the rejection is based on the combination of Aust in view of Guo. As acknowledged by the Applicant on page 6 paragraph 3 of remarks dated 10/09/08 “*The experiment in Aust is entirely related to the elimination of packet loss **during the handoff** (see page 4, col.1 last paragraph in col. 2)*”. The office action cited Guo teaching the preparation for handoff since any actions related to the handoff prior to the handoff would read on in preparation for the handoff. The Applicant relies on the following rationale to dispute the Examiner’s rejection.

*“While Guo discusses a Policy Manager that sends the Handoff Now command as well as alarms and notifications, according to the above claimed feature, messages are relayed or suppressed from the physical layer to the network layer. (See paragraph [0041] and Figure 3 and 4 POLIMAND). (emphasis supplied) However, Figure 4 of the present Application indicates how the POLIMAND (between “the physical layer to the network layer”) functions to speed up the handoff, but not actually initiate it, which is not taught or suggested by Guo or Aust”.*

3. The Examiner respectfully submits that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van*

Art Unit: 2617

*Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). The Examiner is unable to determine why the preparation for handoff as noted in the claim language would distinguish from the actions cited by the prior art that are related to the handoff before the handoff occurs (i.e., in preparation for handoff reads on any action related to handoff that happens prior to the handoff including signal measurements to determine if a handoff is warranted). The claim language further reads that the at least one message received from the currently supplying network access device from the physical layer to the network layer, or suppressing the transmission of the at least one message. The Examiner respectfully submits that during handoff there are actually multiple access networks supplying messages (i.e., signal strength and QoS type messages). In Guo physical layer messages actually trigger the network layer based on certain criteria related to the handoff if the criteria is not met the message is suppressed (i.e., do not handoff). Consider that the prior art teaches that in preparation for Handoff the Physical layer may relay a message involving the network layer that indicates a decision to handoff or based on the QoS the decision to handoff may be suppressed (i.e., instead of a positive indication a negative indication).

4. Independent Claims 17 and 24 are not patentably distinguishable over Aust and Guo, either alone or in combination, for reasons similar to those provided above.

5. **Rejection of Claims 11-16 and 18-23 under 35 U.S.C. § 103**

Applicant argues that “*since MUP is not involved in decisions related to handoffs between*

Art Unit: 2617

*wireless networks, one of ordinary skill in the art would not have combined Wolman with Aust or Guo.* (See paragraph [0031]).

6. In response to applicant's argument that the *MUP is not involved in decisions related to handoffs between wireless networks, one of ordinary skill in the art would not have combined Wolman with Aust or Guo*, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

7. In light of the above discussion, it is respectfully submitted that claims 11-16 and 18-23 are not patentably distinguishable from the cited references for at least the reasons above because claims 11-16 and 18-23 depend upon independent claims 10 and 17, respectively.

8. Applicant argues that the dependent claims depend from the above discussed independent claims and are patentable over the cited references for the reasons discussed above. The dependent claims also recite additional features not taught or suggested by the cited references. For example, claim 11 recites "making a decision regarding said relaying" in preparation for handover "in an intermediate layer arranged between the link layer and the mobility-controlling network layer." In particular, the cited references do not teach the above-quoted feature. It is thus submitted that claim 11 and all other dependent claims in the Application are independently patentable over the cited references.

9. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Art Unit: 2617

10. **New Claim 25**

Applicant argues that New claim 25 recites:

determining in an intermediate layer in preparation for the handover, whether messages received on a physical layer should be relayed to a network layer, based on at least one threshold value.

Therefore, claim 25 is patentably distinguishable over the cited references.

11. However, The Examiner respectfully disagree.

Aust teaches wherein said making of a decision is in accordance with a comparison of at least one threshold value(e.g., **hysteresis**) (**page 3 1st and 2nd columns**). Guo also recognizes making of a decision is in accordance with a comparison of at least one quality parameter with at least one specified threshold value (**col. 8 lines 23-40 and col. 21 lines 30-36**).

However, AUST does not specifically teach including, as a function of the at least one quality parameter (e.g., threshold), either relaying, in preparation for the handover, at least one message received by a currently supplying network access device from the physical layer to the network layer.

In analogous art, Guo teaches as a function of the at least one quality parameter, either relaying, in preparation for the handover, at least one message received by a currently supplying network access device from the physical layer to the network layer, (**i.e., the boundary detection mechanism is used in part with QoS statistics to provide alarms and notifications to compare QoS in preparation for handoff**)(e.g., see at least **col. 14 lines 26-54, col. 15 lines 37-43, col. 17 line 8 – 34, see context of cited sections and description in remaining col. 18 - 22 and figures 10-16**).

Art Unit: 2617

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify AUST to include as a function of the at least one quality parameter, either relaying, in preparation for the handover, at least one message received by a currently supplying network access device from the physical layer to the network layer, or suppressing transmission of the at least one message for the purpose of reducing the rate of unnecessary vertical handoffs and higher overall quality of service for a mobile computing

Aust as modified by Guo teaches the claimed invention except further comprising making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer.

However, in analogous art Wolman teaches making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer **(i.e., a layer implemented between the data link layer and the network layer working as an intermediary within the protocol stack)(e.g., see at least paragraphs 0035 and figure 2).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Aust as modified by Guo to include making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer for the purpose of reducing interference and delay while increasing the overall capacity of the network as taught by Wolman. Wolman further indicates that Multi-radio unification protocol unifies multiple physical radios and allows network traffic to make use of multiple network interfaces without requiring any modification to network applications or upper layer application, transport, or routing protocols in paragraph 0037.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims **10, 17 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over AUST ET AL , Design issues of mobile IP handoffs between GPRS networks and WLAN



Art Unit: 2617

systems, hereinafter, "AUST" in view of Guo et al., US Patent No.: 6,982,949 B2, hereinafter, "Guo".

Consider **claims 10, 17 and 24**, Aust teaches a method and means for controlling a handover between two network devices (**page 3 1st and 2nd columns**), comprising: determining at least one quality parameter in a link layer based on signal transmissions on a physical layer (**e.g., the quality of the signal**)(**page 3 1st and 2nd columns**), with a mobility-controlling mechanism of a network layer (**e.g., controlling mobility for vertical and horizontal HO**) (**page 3 1st and 2nd columns**); and carrying out the handover as a function of the at least one quality parameter (**e.g., HO based on the quality of the signal**)(**page 3 1st and 2nd columns**), including, as a function of the at least one quality parameter, either relaying, at least one message received by a currently supplying network access device from the physical layer to the network layer, or suppressing transmission of the at least one message (**e.g., MIP advertisements and the suppression thereof**)(**page 3 1st and 2nd columns**).

However, AUST does not specifically teach in including, as a function of the at least one quality parameter, either relaying, **in preparation for the handover**, at least one message received by a currently supplying network access device from the physical layer to the network layer, or suppressing transmission of the at least one message.

In analogous art, Guo teaches as a function of the at least one quality parameter, either relaying, in preparation for the handover, at least one message received by a currently supplying network access device from the physical layer to the network layer, or suppressing transmission of the at least one message (**i.e., the boundary detection mechanism is used in part with QoS statistics to provide alarms and notifications to compare QoS in preparation for**

Art Unit: 2617

**handoff)(e.g., see at least col. 14 lines 26-54, col. 15 lines 37-43, col. 17 line 8 – 34, see context of cited sections and description in remaining col. 18 -22 and figures 10-16).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify AUST to include as a function of the at least one quality parameter, either relaying, **in preparation for the handover**, at least one message received by a currently supplying network access device from the physical layer to the network layer, or suppressing transmission of the at least one message for the purpose of reducing the rate of unnecessary vertical handoffs and higher overall quality of service for a mobile computing device roaming between wireless network types as taught by Guo in **col. 2 lines 45-57**.

5. Claims **11-16 and 18-23 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over AUST ET AL , Design issues of mobile IP handoffs between GPRS networks and WLAN systems, hereinafter, "**AUST**" in view of Guo et al., US Patent No.: 6,982,949 B2, hereinafter, "**Guo**", and further in view of Wolman et al., US Patent Pub. No.: 2004/0185887 A1, hereinafter, "**Wolman**"

Consider **claims 11 and 18 and as applied to claims 10 and 17**, Aust as modified by Guo teaches the claimed invention except further comprising making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer.

However, in analogous art Wolman teaches making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer (**i.e., a layer implemented between the data link layer and the network layer working as an intermediary within the protocol stack**)(e.g., see at least paragraphs 0035 and figure 2).

Art Unit: 2617

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Aust as modified by Guo to include making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer for the purpose of reducing interference and delay while increasing the overall capacity of the network as taught by Wolman. Wolman further indicates that Multi-radio unification protocol unifies multiple physical radios and allows network traffic to make use of multiple network interfaces without requiring any modification to network applications or upper layer application, transport, or routing protocols in paragraph 0037.

Consider **claims 12 and 19 and as applied to claims 11 and 18**, Aust as modified by Guo and further modified by Wolman teaches wherein said making of a decision is in accordance with a comparison of at least one quality parameter with at least one specified threshold value(e.g., **hysteresis**) (**page 3 1st and 2nd columns**). Guo also recognizes making of a decision is in accordance with a comparison of at least one quality parameter with at least one specified threshold value (**col. 8 lines 23-40 and col. 21 lines 30-36**).

Consider **claims 13 and 20 and as applied to claims 12 and 19**, Aust as modified by Guo and further modified by Wolman teaches wherein the at least one threshold value is defined specific to a network access device (**page 3 1st and 2nd columns**).

Consider **claims 14 and 21 and as applied to claims 13 and 20**, Aust as modified by Guo and further modified by Wolman teaches wherein the handover is carried out between two network devices supporting two different standards on the physical layer(e.g., **WWAN(GPRS) and WLAN (IEEE 802.11)**)(**page 3 1st and 2nd columns**).

Consider **claims 15 and 22 and as applied to claims 14 and 21**, Aust teaches the

Art Unit: 2617

claimed invention except further comprising not carrying out the handover until a specified time interval has elapsed after completion of a preceding handover.

In analogous art, Guo teaches the claimed invention further comprising not carrying out the handover until a specified time interval has elapsed after completion of a preceding handover **(e.g., see context of wait state 1202 of figure 12)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify AUST to include not carrying out the handover until a specified time interval has elapsed after completion of a preceding handover for the purpose of reducing the rate of unnecessary vertical handoffs and higher overall quality of service for a mobile computing device roaming between wireless network types as taught by Guo in **col. 2 lines 45-57**.

Consider **claims 16 and 23 and as applied to claims 15 and 22**, Aust as modified by Guo and further modified by Wolman teaches the claimed invention further comprising not carrying out the handover until after a determined number of received advertisements has been exceeded (i.e., at least one advertisement has to be exceeded in order to determine the presence or availability of the network)(**page 3 1st and 2nd columns**).

Consider **Claim 25**, Aust teaches wherein said making of a decision is in accordance with a comparison of at least one threshold value (e.g., **hysteresis**) (**page 3 1st and 2nd columns**). Guo also recognizes making of a decision is in accordance with a comparison of at least one quality parameter with at least one specified threshold value (**col. 8 lines 23-40 and col. 21 lines 30-36**).

Art Unit: 2617

However, AUST does not specifically teach including, as a function of the at least one quality parameter, either relaying, in preparation for the handover, at least one message received by a currently supplying network access device from the physical layer to the network layer.

In analogous art, Guo teaches as a function of the at least one quality parameter, either relaying, in preparation for the handover, at least one message received by a currently supplying network access device from the physical layer to the network layer, **(i.e., the boundary detection mechanism is used in part with QoS statistics to provide alarms and notifications to compare QoS in preparation for handoff)(e.g., see at least col. 14 lines 26-54, col. 15 lines 37-43, col. 17 line 8 – 34, see context of cited sections and description in remaining col. 18 - 22 and figures 10-16).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify AUST to include as a function of the at least one quality parameter, either relaying, in preparation for the handover, at least one message received by a currently supplying network access device from the physical layer to the network layer, or suppressing transmission of the at least one message for the purpose of reducing the rate of unnecessary vertical handoffs and higher overall quality of service for a mobile computing

Aust as modified by Guo teaches the claimed invention except further comprising making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer.

However, in analogous art Wolman teaches making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer

Art Unit: 2617

**(i.e., a layer implemented between the data link layer and the network layer working as an intermediary within the protocol stack)(e.g., see at least paragraphs 0035 and figure 2).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Aust as modified by Guo to include making a decision regarding said relaying in an intermediate layer arranged between the link layer and the mobility-controlling network layer for the purpose of reducing interference and delay while increasing the overall capacity of the network as taught by Wolman. Wolman further indicates that Multi-radio unification protocol unifies multiple physical radios and allows network traffic to make use of multiple network interfaces without requiring any modification to network applications or upper layer application, transport, or routing protocols in paragraph 0037.

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2617

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles Shedrick/  
Examiner, Art Unit 2617

/Lester Kincaid/  
Supervisory Patent Examiner, Art Unit 2617